

**Ethyl Ether****107-4**

Version 1.2 2

Revision Date 08/24/2017

Print Date 06/29/2018

**SECTION 1. PRODUCT AND COMPANY IDENTIFICATION**

Product name : Ethyl Ether

SDS Number : 000000011365

Product Use Description : Solvent

Manufacturer or supplier's details : CHEM-SUPPLY Pty Ltd  
38-50 Bedford St.  
Gillman SA 5013, Australia


For more information call : +61 8 8440 2000  
(Monday-Friday, 9:00am-5:00pm)

In case of emergency call : **Medical: 1-800-498-5701 or +1-303-389-1414**  
: **Transportation (CHEMTREC): 1-800-424-9300 or +1-703-527-3887**  
:  
: **CHEMTREC in Australia: +(61)-290372994**  
: (24 hours/day, 7 days/week)

**2. HAZARDS IDENTIFICATION****Classification of the substance or mixture**

Classification of the substance or mixture : Flammable liquids, Category 1  
Acute toxicity, Category 4, Oral  
Specific target organ toxicity - single exposure, Category 3

**GHS Label elements, including precautionary statements**

Symbol(s) : 

Signal word : Danger

Hazard statements : Extremely flammable liquid and vapour.  
Harmful if swallowed.

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May cause drowsiness and dizziness.

Precautionary statements : **Prevention:**  
Keep away from heat/sparks/open flames/hot surfaces. No smoking.  
Keep container tightly closed.  
Ground/bond container and receiving equipment.  
Use explosion-proof electrical/ ventilating/ lighting/ equipment.  
Use only non-sparking tools.  
Take precautionary measures against static discharge.  
Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.  
Wash skin thoroughly after handling.  
Do not eat, drink or smoke when using this product.  
Use only outdoors or in a well-ventilated area.  
Wear protective gloves/ protective clothing/ eye protection/ face protection.

**Response:**  
IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth.  
IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.  
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
Call a POISON CENTER/doctor if you feel unwell.  
In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

**Storage:**  
Store in a well-ventilated place. Keep container tightly closed.  
Keep cool.  
Store locked up.

**Disposal:**  
Dispose of contents/ container to an approved waste disposal plant.

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Synonyms : Diethyl ether, Ethoxyethane, Anesthesia Ether, Ether

Formula : C<sub>4</sub>H<sub>10</sub>O

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Chemical nature : Substance

CAS-No. : 60-29-7

**Hazardous components**

Chemical name	CAS-No.	Concentration
Diethyl ether	60-29-7	<= 100%

**4. FIRST AID MEASURES**

Inhalation : Remove to fresh air.  
If not breathing, give artificial respiration.  
If breathing is difficult, give oxygen.  
Use oxygen as required, provided a qualified operator is present.  
Call a physician.

Skin contact : Wash off immediately with plenty of water for at least 15 minutes.  
Take off contaminated clothing and shoes immediately.  
Wash contaminated clothing before re-use.  
Call a physician if irritation develops or persists.

Eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.  
Call a physician.

Ingestion : Do not induce vomiting without medical advice.  
Never give anything by mouth to an unconscious person.  
Call a physician.

Notes to physician : Treat symptomatically.

**5. FIREFIGHTING MEASURES**

Suitable extinguishing media : Carbon dioxide (CO<sub>2</sub>)  
Dry chemical  
Foam  
Cool closed containers exposed to fire with water spray.

Unsuitable extinguishing media : Water may be ineffective.  
Do not use a solid water stream as it may scatter and spread fire.

Specific hazards during : Extremely flammable.

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## firefighting

Vapours may form explosive mixtures with air.  
Vapours are heavier than air and may spread along floors.  
Vapors may travel to areas away from work site before igniting/flashing back to vapor source.  
Do not allow run-off from fire fighting to enter drains or water courses.  
In case of fire hazardous decomposition products may be produced such as:  
Carbon monoxide  
Carbon dioxide (CO<sub>2</sub>)  
May form explosive peroxides.

Special protective equipment for firefighters : Wear self-contained breathing apparatus and protective suit.  
Further information : HAZCHEM CODE: 3YE

**6. ACCIDENTAL RELEASE MEASURES**

Personal precautions : Wear personal protective equipment. Unprotected persons must be kept away.  
Immediately evacuate personnel to safe areas.  
Keep people away from and upwind of spill/leak.  
Ensure adequate ventilation.  
Remove all sources of ignition.  
Do not swallow.  
Avoid breathing vapours, mist or gas.  
Avoid contact with skin, eyes and clothing.

Environmental precautions : Prevent further leakage or spillage if safe to do so.  
Prevent product from entering drains.  
Discharge into the environment must be avoided.  
Do not flush into surface water or sanitary sewer system.  
Do not allow run-off from fire fighting to enter drains or water courses.

Methods for cleaning up : Ventilate the area.  
No sparking tools should be used.  
Use explosion-proof equipment.  
Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

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**7. HANDLING AND STORAGE****Handling**

- Advice on safe handling : Wear personal protective equipment.  
Use only in well-ventilated areas.  
Keep container tightly closed.  
Do not smoke.  
Do not swallow.  
Avoid breathing vapours, mist or gas.  
Avoid contact with skin, eyes and clothing.
- Advice on protection against fire and explosion : Keep away from fire, sparks and heated surfaces.  
Take precautionary measures against static discharges.  
Ensure all equipment is electrically grounded before beginning transfer operations.  
Use explosion-proof equipment.  
Keep product and empty container away from heat and sources of ignition.  
No sparking tools should be used.  
No smoking.

**Storage**

- Requirements for storage areas and containers : Store in area designed for storage of flammable liquids.  
Protect from physical damage.  
Keep containers tightly closed in a dry, cool and well-ventilated place.  
Containers which are opened must be carefully resealed and kept upright to prevent leakage.  
Keep away from heat and sources of ignition.  
Keep away from direct sunlight.  
Store away from incompatible substances.  
Container hazardous when empty.  
Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
- Materials to avoid : Oxidizing agents, Strong acids, Halogens, Sulphur compounds, May attack many plastics, rubbers and coatings.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Components with workplace control parameters**

Components	CAS-No.	Value	Control parameters	Update	Basis
Diethyl ether	60-29-7	STEL : Short	500 ppm	12 2011	AU NOEL: Australia.

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		Term Exposure Limit (STEL):	1,520 mg/m <sup>3</sup>		National Workplace OELs (Workplace Exposure Standards for Airborne Contaminants, Appendix A)
		TWA : Time Weighted Average (TWA):	400 ppm 1,210 mg/m <sup>3</sup>	12 2011	AU NOEL: Australia. National Workplace OELs (Workplace Exposure Standards for Airborne Contaminants, Appendix A)
		TWA : Time Weighted Average (TWA):	400 ppm 1,210 mg/m <sup>3</sup>	08 2005	AU OEL: Australia. OELs. (Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment)
		STEL : Short Term Exposure Limit (STEL):	500 ppm 1,520 mg/m <sup>3</sup>	08 2005	AU OEL: Australia. OELs. (Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment)

#### Engineering measures

Use with local exhaust ventilation.

Prevent vapour buildup by providing adequate ventilation during and after use.

#### Personal protective equipment

Respiratory protection : In case of insufficient ventilation, wear suitable respiratory equipment.  
For rescue and maintenance work in storage tanks use self-contained breathing apparatus.  
Use NIOSH approved respiratory protection.

Hand protection : Solvent-resistant gloves  
Gloves must be inspected prior to use.  
Replace when worn.

Eye protection : Do not wear contact lenses.  
Wear as appropriate:  
Safety glasses with side-shields  
If splashes are likely to occur, wear:

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	Goggles or face shield, giving complete protection to eyes
Skin and body protection	: Wear as appropriate: Solvent-resistant apron Flame retardant antistatic protective clothing. If splashes are likely to occur, wear: Protective suit
Hygiene measures	: When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product. Keep working clothes separately. Remove and wash contaminated clothing before re-use. Do not swallow. Avoid breathing vapours, mist or gas. Avoid contact with skin, eyes and clothing.
Protective measures	: Ensure that eyewash stations and safety showers are close to the workstation location.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

Physical state	: liquid, clear
Colour	: colourless
Odour	: sweet
pH	: Note: Not applicable
Freezing point	: -117.4 °C
Boiling point/boiling range	: 35 °C
Flash point	: -49 °F (-45 °C)
Lower explosion limit	: 1 %(V)
Upper explosion limit	: 36 %(V)
Vapour pressure	: 589 hPa

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	at 20 °C(68 °F)
	717 hPa at 25 °C(77 °F)
Vapour density	: 2.6 Note: (Air = 1.0)
Density	: 0.713 g/cm <sup>3</sup> at 20 °C
Water solubility	: 68.9 g/l
Ignition temperature	: 160 °C
Molecular weight	: 74.12 g/mol

**10. STABILITY AND REACTIVITY**

Chemical stability	: Stable under recommended storage conditions.
Possibility of hazardous reactions	: Hazardous polymerization does not occur.
Conditions to avoid	: Heat, flames and sparks. Keep away from direct sunlight. Protect from exposure to air/oxygen (peroxide formation). Protect against light.
Incompatible materials to avoid	: Oxidizing agents Strong acids Halogens Sulphur compounds May attack many plastics, rubbers and coatings.
Hazardous decomposition products	: In case of fire hazardous decomposition products may be produced such as: Carbon monoxide



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Carbon dioxide (CO<sub>2</sub>)  
May form explosive peroxides.

**11. TOXICOLOGICAL INFORMATION**

Acute oral toxicity	: LD50: 1,215 mg/kg Species: Rat
Acute inhalation toxicity	: LC50: 73000 ppm Exposure time: 2 h Species: Rat
Acute dermal toxicity	: LD50: > 14.26 g/kg Species: Rabbit
Skin irritation	: Species: Rabbit Result: slight irritation
Eye irritation	: Species: Rabbit Result: Moderate eye irritation
Genotoxicity in vitro	: Test Method: Ames test Metabolic activation: with and without metabolic activation Result: negative Method: Mutagenicity (Salmonella typhimurium - reverse mutation assay)
Further information	: Note: Solvent vapours have a narcotic effect if inhaled in high concentrations.

**12. Ecological information****Toxicity**

Toxicity to fish	: flow-through test LC50: 2,560 mg/l
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Exposure time: 96 h  
Species: Pimephales promelas (fathead minnow)

: semi-static test  
LC50: 2,138 mg/l  
Exposure time: 14 d  
Species: Poecilia reticulata (guppy)

Toxicity to bacteria : EC50: 5,623 mg/l  
Exposure time: 15 min  
Species: Photobacterium phosphoreum

**13. DISPOSAL CONSIDERATIONS**

Product : In accordance with local and national regulations.

**14. TRANSPORT INFORMATION****ADR**

UN/ID No. : UN 1155  
Description of the goods : DIETHYL ETHER  
Class : 3  
Packing group : I  
Classification Code : F1  
Hazard Identification Number : 33  
Labels : 3

**ADG\_ ROAD**

UN/ID No. : UN 1155  
Description of the goods : DIETHYL ETHER  
Class : 3  
Packing group : I  
Hazard Identification Number : 33  
Labels : 3

**IATA**

UN/ID No. : UN 1155  
Description of the goods : Diethyl ether

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Class : 3  
Packing group : I  
Labels : 3  
Packing instruction (cargo aircraft) : 361  
Packing instruction (passenger aircraft) : 351

**IMDG**

UN/ID No. : UN 1155  
Description of the goods : DIETHYL ETHER  
Class : 3  
Packing group : I  
Labels : 3  
EmS Number 1 : F-E  
EmS Number 2 : S-D

Marine pollutant : no

HAZCHEM CODE: 3YE

**15. REGULATORY INFORMATION****National regulatory information**

Standard for the Uniform : Schedule 6  
Scheduling of Medicines and  
Poisons

**Other international regulations****Notification status**

US. Toxic Substances : On TSCA Inventory  
Control Act

Australia. Industrial Chemical : On the inventory, or in compliance with the inventory  
(Notification and  
Assessment) Act

Canada. Canadian : All components of this product are on the Canadian DSL  
Environmental Protection Act  
(CEPA). Domestic  
Substances List (DSL)

Japan. Kashin-Hou Law List : On the inventory, or in compliance with the inventory

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Korea. Existing Chemicals Inventory (KECI) : On the inventory, or in compliance with the inventory

Philippines. The Toxic Substances and Hazardous and Nuclear Waste Control Act : On the inventory, or in compliance with the inventory

China. Inventory of Existing Chemical Substances : On the inventory, or in compliance with the inventory

New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand : On the inventory, or in compliance with the inventory

**16. OTHER INFORMATION****Sources of key data used to compile the Safety Data Sheet:**

1. National Code of Practice for the Preparation of Material Safety Data Sheets 2nd Edition [NOHSC:2011(2003)]
2. Approved Criteria for Classifying Hazardous Substances [NOHSC:1008(1999)]
3. List of Designated Hazardous Substances [NOHSC:10005(1999)]
4. Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995)]
5. Australian Dangerous Goods Code, No. 6 [National Road Transport Commission]
6. Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP), No. 19 [NDPSC: 2004]
7. National Code of Practice for the Labelling of Workplace Substances [NOHSC:2012(1994)]

**Further information**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Final determination of suitability of any material is the sole responsibility of the user.

This information should not constitute a guarantee for any specific product properties.

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Changes since the last version are highlighted in the margin. This version replaces all previous versions.

Prepared by:  
Honeywell Performance Materials and Technologies Product Stewardship Group

End of Safety Data Sheet